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## FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Examiner E. Chang	Antony P. Ng, Reg. No. 43,427
COMPANY:	DATE:
U. S. Patent and Trademark Office	January 19, 2005
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Response to Notification of Non-Compliance (Appeal Brief)	09/754,483

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## NOTES/COMMENTS:

Please see the attached formal response, and feel free to call me at (512) 343.6116 should you have any questions concerning the attached.

1. (Substitute) Appeal Brief

Respectfully submitted,  
Antony P. Ng

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

JAN 19 2005

Attorney Docket No.: JP919990215US1

In re Application of:

SHIGEFUMI ODAOHARA

Serial No.: 09/754,483

**Filed: 1 APRIL 2001**

**For: POWER SUPPLY UNIT AND  
COMPUTER**

www.pearsoned.com

Examiner: CHANG, E.

Art Unit: 2116

**APPEAL BRIEF**

MS Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Sir:**

In response to the Notification of Non-Compliance, please replace the previous Brief filed on September 22, 2004 with the present Brief.

An amount of \$330.00 for the submission of an Appeal Brief should have been charged already; thus, no additional fee or extension of time is believed to be required. However, in the event an additional fee or extension of time is required, please charge that fee to the IBM Corporation Deposit Account 50-0563.

**CERTIFICATE OF FACSIMILE TRANSMISSION**  
**37 CFR § 1.8(a)**

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office via facsimile on the date below.

1/19/05  
Date

Vickrey Filizowshy  
Signature

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**REAL PARTY IN INTEREST**

The present application is assigned to International Business Machines Corporation, the real party of interest.

**RELATED APPEALS AND INTERFERENCES**

No related appeal is presently pending.

**STATUS OF THE CLAIMS**

Claims 1-13, which were finally rejected by the Examiner as noted in the Final Office Action dated July 13, 2004 and in the Advisory Action dated August 31, 2004, are being appealed.

**STATUS OF AMENDMENTS**

Two amendments were submitted subsequent to the Final Office Action dated July 31, 2004. In the first amendment, Claim 6 was amended according to the suggestion given by the Examiner in the above-mentioned Final Office Action; thus, amended Claim 6 should be entered for the purpose of Appeal. In the second amendment, Claims 1-5 and 11 were cancelled.

**SUMMARY OF THE CLAIMED SUBJECT MATTER**

Within a personal computer (PC), a direct current (DC)-to-DC converter is typically utilized to convert a first DC voltage level to a second DC voltage level. The DC-to-DC converter can be implemented by a switching power supply circuit and a series power supply circuit.

Generally speaking, switching power supply circuits have relatively low power conversion efficiencies under light loads. On the other hand, series power supply circuits have relatively low power conversion efficiencies under heavy loads. The present invention provides a power supply unit that is capable of furnishing a high power conversion efficiency under a wide range of loads. The power supply unit of the present invention is intended for portable PCs such as notebook

computers, sub-notebook computers, personal data assistants, etc., which are required to alternate between an active mode and a suspend mode on a relatively frequent basis.

In accordance with an embodiment of the present invention, a voltage converter (such as a DC/DC converter 66' described on page 28, lines 13-18 and shown in Figure 5) includes a first power supply circuit (such as a series power supply circuit 100 described on page 30, line 28 and shown in Figure 5), a second power supply circuit (such as a switching power supply circuit 102 described on page 30, line 29 and shown in Figure 5), and a detecting circuit (such as a detecting circuit 140 described on page 28, lines 18-21 and shown in Figure 5). Both the first power supply circuit and the second power supply circuit are capable of converting an input voltage to an output voltage. The first power supply circuit is connected in parallel with the second power supply circuit. Based on the amount of current supplied to the first and second power supply circuits, the detecting circuit activates either the first power supply circuit or the second power supply circuit to convert an input voltage to an output voltage (page 30, line 27 - page 31, line 1).

#### **GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL**

The Examiner's rejection of Claims 6-10 and 12-13 under 35 U.S.C. § 102(e) as being anticipated by *Ferry et al.* (US 6,150,798).

#### **ARGUMENT**

The Examiner's rejections of Claims 6-10 and 12-13 are not well-founded and should be reversed.

*Ferry* does not teach or suggest a detecting circuit for activating one of two power supply circuits based on the amount of current supplied to the two power supply circuits

Claim 6 recites "a detecting circuit for activating either said first power supply circuit or said second power supply circuit to convert said input voltage to said output voltage based on an amount of current supplied to said first and second power supply circuits" (lines 7-9).

On page 4 of the Final Office Action, the Examiner asserts that the claimed detecting circuit is disclosed by *Ferry* because *Ferry* teaches that "the control means selects one of the regulation components according to the current consumed by the load" in col. 3, lines 40-42. However, the claimed detecting circuit makes its selection based on the amount of current supplied to a first power supply circuit and a second power supply circuit, and not based on the current consumed by the load, as disclosed by *Ferry*. Thus, *Ferry* does not teach or suggest the claimed detecting circuit that activates one of the power supply circuits based on the amount of current supplied to the power supply circuits. Because the claimed invention recites novel features that are not taught or suggested by *Ferry*, the § 102 rejection is improper.

CONCLUSION

For the reasons stated above, Appellant believes that the claimed invention clearly is patentably distinct over the cited references and that the rejection under 35 U.S.C. § 102 is not well-founded. Hence, Appellant respectfully urges the Board to reverse the Examiner's rejection.

Respectfully submitted,



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ATTORNEY FOR APPELLANT

CLAIMS APPENDIX

1-5. cancelled

6. A voltage converter comprising:

a first power supply circuit capable of converting an input voltage to an output voltage;

a second power supply circuit capable of converting said input voltage to said output voltage, wherein said second power supply circuit is connected in parallel with said first power supply circuit; and

a detecting circuit for activating either said first power supply circuit or said second power supply circuit to convert said input voltage to said output voltage based on an amount of current supplied to said first and second power supply circuits.

7. The voltage converter of Claim 6, wherein said first power supply circuit is a series power supply circuit, and said second power supply circuit is a switching power supply circuit.

8. The voltage converter of Claim 6, wherein said first power supply circuit has a relatively high conversion efficiency during a low load demand, and said second power supply circuit has a relatively high conversion efficiency during a high load demand.

9. The voltage converter of Claim 6, wherein said first power supply is activated by said detecting circuit when said current amount is below a predetermined value, wherein said second power supply is activated by said detecting circuit when said current amount exceeds said predetermined value.



10. The voltage converter of Claim 6, wherein said current amount is below a predetermined value when said voltage converter is in a suspended state, wherein said current amount exceeds said predetermined value when said voltage converter is in a non-suspended state.
11. cancelled
12. The voltage converter of Claim 6, wherein said first and second power supply circuits share a common voltage input and a common voltage output.
13. The voltage converter of Claim 6, wherein said detecting circuit includes a current sense amplifier coupled to a power input line for said first and second power supply circuits.